AMENDMENTS TO THE CLAIMS

1. (Currently amended) A ~~manufacturing~~ method of manufacturing a photoelectric conversion device, comprising:

~~whereby a paste in which semiconductor fine grain and a binder made of a polymer compound are mixed is coated onto~~ coating a transparent conductive substrate with a paste comprising a semiconductor fine grain and a binder made of a polymer compound;

~~and sintered, thereby forming~~ sintering the paste at a temperature of between approximately 400 °C to 500 °C to form a semiconductor layer made of the semiconductor fine grain[[,]]; and

~~wherein after said semiconductor layer is formed,~~ irradiating the semiconductor layer with ultraviolet rays ~~are irradiated to said semiconductor layer and, by using a photocatalyst effect of said semiconductor fine grain,~~ to remove an organic substance ~~remaining~~ in said semiconductor layer using a photocatalyst effect of the semiconductor fine grain ~~is removed~~.

2. (Currently amended) ~~A manufacturing method of the photoelectric conversion device according to~~ The method of claim 1, wherein the semiconductor fine grain comprises a plurality of ~~one kind or two or more~~ kinds of semiconductor fine grain exhibiting photocatalyst activity ~~is used as said semiconductor fine grain~~.

3. (Currently amended) ~~A manufacturing method of the photoelectric conversion device according to~~ The method of claim 1, wherein said semiconductor fine grain ~~exhibiting the~~ having a photocatalyst effect ~~activity~~ is made of titanium oxide, zinc oxide, or strontium titanate.

4. (Currently amended) ~~A manufacturing method of the photoelectric conversion device according to~~ The method of claim 1, wherein said polymer compound is a polymer compound having viscosity improving effect.

5. (Currently amended) ~~A manufacturing method of the photoelectric conversion device according to~~ The method of claim [[4]] 1, wherein said polymer compound ~~having said viscosity improving effect~~ is polyethylene glycol or polystyrene.

6. (Currently amended) A photoelectric conversion device ~~using~~ comprising:

a semiconductor layer made of semiconductor fine grain,

wherein the semiconductor fine grain is fused by sintering, and wherein the semiconductor fine grain comprises a plurality of types of semiconductor fine grain exhibiting photocatalyst behavior.

~~wherein a paste in which said semiconductor fine grain and a binder made of a polymer compound are mixed is coated onto a transparent conductive substrate and sintered, thereby forming the semiconductor layer made of said semiconductor fine grain, after that, ultraviolet rays are irradiated to said semiconductor layer and, by using a photocatalyst effect of said semiconductor fine grain, an organic substance remaining in said semiconductor layer is removed.~~

7. (Currently amended) An apparatus ~~photoelectric conversion device using~~ comprising:

a semiconductor layer made of semiconductor fine grain and comprising less than approximately 1.4 atomic % of organic substances.[[,]]

~~wherein an organic substance does not substantially remain in said semiconductor layer.~~

8. (Currently amended) ~~A photoelectric conversion device according to~~ The apparatus of claim 7, wherein a content of a carbon component in said semiconductor layer is equal to or less than 1 ~~atom~~ atomic %.

9. (Currently amended) ~~A photoelectric conversion device according to~~ The apparatus of claim 7, wherein a content of a carbon component in said semiconductor layer is equal to or less than 0.3 ~~atom~~ atomic %.

10. (Currently amended) A ~~manufacturing~~ method of processing ~~an electronic apparatus, whereby a paste in which semiconductor fine grain and a binder made of a polymer compound are mixed is coated onto a substrate and sintered, thereby forming~~ a semiconductor layer formed by sintering a paste coated on a substrate, the paste comprising a semiconductor fine grain and a binder made of a polymer compound, the method comprising:~~made of said semiconductor fine grain,~~

~~wherein after said semiconductor layer is formed,~~ irradiating the semiconductor layer with ultraviolet rays for approximately 70 hours ~~are irradiated to said semiconductor layer and, by using a photocatalyst effect of said semiconductor fine grain, an organic substance remaining in said semiconductor layer is removed~~.

11. (Currently amended) An electronic apparatus comprising:

a substrate; and

~~using~~ a semiconductor layer made of semiconductor fine grain and formed on the substrate, the semiconductor layer comprising a carbon component,

wherein the carbon component is less than one atomic % of the semiconductor layer ~~a paste in which said semiconductor fine grain and a binder made of a polymer compound are mixed is coated onto a substrate and sintered, thereby forming the semiconductor layer made of said semiconductor fine grain, after that, ultraviolet rays are irradiated to said semiconductor layer and, by using a photocatalyst effect of said semiconductor fine grain, an organic substance remaining in said semiconductor layer is removed~~.

12. (Currently amended) The apparatus of claim 7, wherein the apparatus forms at least part of an electronic apparatus. ~~An electronic apparatus using a semiconductor layer made of semiconductor fine grain,~~

~~wherein an organic substance does not substantially remain in said semiconductor layer.~~

13. (Currently amended) A ~~manufacturing~~ method of manufacturing a semiconductor layer, comprising:

~~whereby~~ forming a paste ~~in which~~ comprising a semiconductor fine grain and a binder made of a polymer compound; ~~are mixed is~~

~~coated onto~~ coating a substrate with the paste;

~~and sintered~~sintering the paste between approximately 400 °C and 500 °C, thereby forming the semiconductor layer ~~made of said~~ comprising the semiconductor fine grain,

~~wherein after said semiconductor layer is formed,~~ irradiating the semiconductor layer with ultraviolet rays ~~are irradiated to said semiconductor layer~~ and, by using a photocatalyst effect of said

semiconductor fine grain, removing an organic substance ~~remaining~~ in said semiconductor layer ~~is removed~~.

14. (Currently amended) A semiconductor layer made of semiconductor fine grain and comprising:[[,]]

a plurality of kinds of semiconductor fine grain exhibiting photocatalyst behavior.

~~wherein a paste in which said semiconductor fine grain and a binder made of a polymer compound are mixed is coated onto a substrate and sintered, thereby forming the semiconductor layer made of said semiconductor fine grain, after that, ultraviolet rays are irradiated to said semiconductor layer and, by using a photocatalyst effect of said semiconductor fine grain, an organic substance remaining in said semiconductor layer is removed.~~

15. (Currently amended) The apparatus of claim 7, wherein the apparatus forms at least part of a photoelectric conversion device.~~A semiconductor layer made of semiconductor fine grain,~~

~~wherein an organic substance does not substantially remain in said semiconductor layer.~~

16. (New) The method of claim 1, wherein irradiating the semiconductor layer with ultraviolet rays comprises irradiating the semiconductor layer with ultraviolet rays for up to approximately 70 hours.

17. (New) The method of claim 16, wherein irradiating the semiconductor layer with ultraviolet rays comprises irradiating the semiconductor layer with ultraviolet rays for approximately 70 hours.

18. (New) The method of claim 1, wherein sintering the paste at a temperature of between approximately 400 ^{o}C to 500 ^{o}C comprises sintering the paste for between approximately 30 minutes and one hour.

19. (New) The apparatus of claim 7, wherein the semiconductor fine grain comprises a plurality of kinds of semiconductor fine grain exhibiting photocatalyst behavior.